

Application No.: 10/083,568

Docket No.: A8130.0078/P078

REMARKS

Claims 1-14 were pending. Claims 15-20 are new. Claims 1-3, 6-9, and 11 have been amended. Claims 1-20 are pending.

Claims 1, 2, and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,569,306 to Thal. Reconsideration of this rejection respectfully is requested.

Thal does not teach or suggest a structure produced by placing at least one piece of suture in a mold and molding a suture anchor body around the suture. The following statement is presented on page 2 of the Office Action: "Thal discloses that it was known to mold a suture anchor and suture and suture loop in one piece." Applicants agree. Claim 1, however, does not recite a suture anchor and suture and suture loop molded in one piece. Instead, claim 1 recites that a polymeric suture anchor body is *molded around* at least one piece of suture placed in a mold.

Thal does not disclose or suggest a structure that is the same as that produced by the process recited in claim 1. More specifically, Thal discloses a spike plug having an end. A suture element 18 is *attached* to the end of the spike plug. See, *inter alia*, FIG. 2 and the description in Thal beginning at line 46 of col. 5. There is no teaching or suggestion of a structure derived by molding a suture anchor body around a piece of suture.

Thal describes various ways of molding the suture element 18, but includes no description of insert-molding. According to Thal the spike, suture, and loop element can be molded as one entire component. Alternatively, each individual component can be molded separately. See col. 5, lines 54-60, col. 7, lines 50-53, and col. 8, lines 18-24.

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These embodiments do not teach or suggest a structure formed by placing at least one piece of suture in a mold and molding a ribbed suture anchor around the suture.

Claim 1 is patentable over Thal. Claim 2 depends from claim 1 and is patentable over Thal for at least the same reasons.

With respect to claim 6, Thal does not teach or suggest an *insert* molded suture anchor. The molded suture anchor disclosed by Thal is a single, molded component.¹ Claim 6 is patentable over Thal.

Claims 8 and 11-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,814,051 to Wenstrom, Jr. Reconsideration of this rejection respectfully is requested.

Wenstrom, Jr. discloses a driver having a slot formed along the entire length of the cannulated shaft. Wenstrom, Jr. does not teach or suggest a driver with an enclosed cannulated shaft and a slot formed at a distal end of the shaft. Claims 8 and 11-14 are patentable over Wenstrom, Jr.

Claims 8, 11, 12, and 14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Pat. No. 6,893,448 to O'Quinn et al. Reconsideration of this rejection respectfully is requested.

O'Quinn et al. discloses a hooked plication instrument. The hooked plication instrument does not feature a slot on the distal end of an enclosed cannulated shaft that opens into the shaft cannula. Claims 8, 11, 12, and 14 are patentable over O'Quinn et al.

¹ In FIGS. 12 and 13, for example, a line extends from the end of and along the suture anchor body adjacent where suture element 154 is attached. Applicants note that this line is not an extension of suture element 154. Instead, the line is an artifact of the shading provided to the cylindrical anchor body. A close look at FIGS. 12 and 13, for example, reveals that the shading line is not aligned with suture element 154, and the thickness of the shading line is noticeably thinner than the line used to depict suture element 154.

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Claims 1-6 and 8-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,102,421 to Anspach, Jr. in view of Grafton et al. Reconsideration of this rejection respectfully is requested.

Anspach, Jr. discloses an anchor for fixing one end of suture to bone. See Abstract. One end of a length of suture is attached to the anchor. More specifically, the cylindrical extension member 14 has a drilled hole 40 for holding a suture 5. See col. 3, lines 26-27. Applicants note that the configuration of the Anspach, Jr. anchor, including the serrations, and the inwardly and forwardly-tapered base sections of the ribs, would not appear to lend itself to insert-molding. Anspach, Jr. also discloses an anchor that is inserted with rotation, and does not disclose a round cylindrical drive head at a proximal end of the anchor. See FIG. 2 of Anspach, Jr., for example. Anspach, Jr. also does not teach or suggest a round cylindrical recess in the anchor driver. Claims 1-6 and 8-14 are patentable over Anspach, Jr.

Grafton et al. does not remedy the deficiencies of Anspach, Jr. Grafton et al. has been cited as providing the missing feature of insert-molding. As noted above, the anchor of Anspach, Jr. does not appear to have an insert-moldable shape. Moreover, Grafton et al. features a hexagonal drive head on a rotationally-inserted anchor, and does not teach or suggest the round cylindrical drive head or driver recess that are missing from Anspach, Jr. Claims 1-6 and 8-14 are patentable over Anspach, Jr. are patentable over the proposed combination of Anspach, Jr. and Grafton et al.

Claims 3-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Thal in view of Grafton et al. Reconsideration of this rejection respectfully is requested.

Thal does not disclose an anchor made from a mold arranged and configured to produce ribs comprising adjacent truncated cones and a round cylindrical drive

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head. Grafton et al. does not remedy the deficiencies of Thal. Grafton et al. discloses a threaded, tapered screw anchor that is installed by rotational driving. Claims 3-5 are patentable over the proposed combination of Thal and Grafton et al.

Claims 1-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Grafton et al., or in the alternative under 35 U.S.C. § 103(b) as being unpatentable over Grafton et al. in view of U.S. Pat. No. 5,100,417 to Cerier et al. Reconsideration of this rejection respectfully is requested.

Grafton et al. discloses a screw-in suture anchor and a tap used to form a hole into which the suture anchor is installed. Grafton et al. does not teach or suggest a suture anchor body made up of adjacent truncated cones and having a round cylindrical drive head, or a non-threaded suture anchor that can be used in surgery by being advanced without turning.

Cerier et al. does not remedy the deficiencies of Grafton et al. Cerier et al. discloses an anchor that is force-fit into a hole. The anchor disclosed by Cerier et al. is not made up of adjacent truncated cones. Also, there is no motivation in the prior art to modify the threads of the screw-in anchor of Grafton et al. using the force-fit ribs of Cerier et al. absent an improper hindsight attempt to reconstruct the present invention. Replacing the threads of Grafton et al. with the ribs of Cerier et al. would render the Grafton et al. anchor unusable for its intended purpose of being installed by rotation into a pre-tapped hole. Claims 3-5 are patentable over Grafton et al. in view of Cerier et al.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,591,207 to Coleman in view of Grafton et al. and Cerier et al. Reconsideration of this rejection respectfully is requested.

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Coleman discloses a driver for a threaded, rotatable suture anchor. Coleman does not teach or suggest a method of surgical plication in which an insert-molded anchor is advanced into a hole without turning. As noted above, Grafton et al. also relates to threaded, rotated suture anchors. Cerier et al. does not remedy the deficiencies of Coleman and Grafton et al. There is no motivation in the prior art to replace the threads of the rotated suture anchors of Coleman and Grafton et al. with press-fit ribs. Claim 7 is patentable over the proposed combination of Coleman, Grafton et al., and Cerier et al.

In view of the above amendment and remarks, applicants believe the pending application is in condition for allowance.

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